

## **ACTIVITY-BASED BATTERY MONITOR WITH A UNIVERSAL CURRENT MEASURING APPARATUS**

### **ABSTRACT OF THE DISCLOSURE**

A battery monitoring apparatus that obtains a current  
5 measurement for a current in a conductive element. The battery  
monitoring apparatus includes conductive lines configured to couple to a  
conductive element having an electrical current, a filter coupled to the  
conductive lines and configured to filter noise from a signal derived from a  
voltage difference between the conductive lines, an analog-to-digital  
10 converter that converts the signal filtered by the filter and outputs a  
digital signal, and a controller that receives the digital signal from the  
analog-to-digital converter.